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## SHARE REPURCHASE DECISION: FREE CASH FLOW HYPOTHESIS OR SIGNALING THEORY

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### ABSTRACT

This study aims to examine the factors that affect companies doing share repurchase with free cash flow as dependent variable, firm value, firm size, leverage, earnings per share, and dividends. The sample in this study are the companies that make share repurchase and the comparison companies listed on the Indonesia Stock Exchange in 2004 until 2009. Data used in this research is secondary data obtained from financial data on the website [www.idx.com](http://www.idx.com). The number of samples in this study were as many as 38 companies consisting of 19 companies doing share repurchase and 19 comparison companies are not doing share repurchase.

Data analysis was performed with logistic regression using SPSS version 16.0. Results of hypothesis testing showed the influence of a low firm value (undervalued) more influence corporate decisions to share repurchase and significant (Significant = 0.034). Free cash flow in order to reduce the agency problem does not show significant results to influence the company's decision to share repurchase (Significant = 0.141). Furthermore, earnings per share showed a negative and significant influence but the dividends show a positive influence and not significant where the second hypothesis is also rejected. Free cash flow, earnings per share, and dividends is a variable that hypothesis is rejected. Size also affects the company and leverage the company's decision to share repurchase.

Keywords: Share Repurchase, Free Cash Flow, Signaling Theory, Leverage, Earnings per share, Dividend

### 1. Introduction

#### 1.1. Background

Sartono (2001) stated the company will repurchase shares when it has excess cash and have no profitable investment opportunities. If based on the consideration that the company does not have a profitable investment opportunity set, firms can use free cash flow is to be paid in dividends. However, if the dividend payment is deemed not to give a positive signal to the performance of the company and can not affect the price of securities companies and stock companies tend to undervaluation, the management company decided to use free cash flow for share repurchase program (Mauboussin, 2006).

Two of the most popular explanation of the decision explaining the company decided to repurchase shares is free cash flow hypothesis and the theory of signal



(signaling theory). Free cash flow hypothesis outlined in the agency theory implies that the company with excess cash flow and little debt payments will make a bigger share repurchase. Dittmar (1999) argues, if the company has excess cash flow, then the company can withstand it or distribute profits to shareholders. Companies with high cash flow are at high risk for excessive investment, cash flow and free cash flow conflict between shareholders and managers when excess cash flow is not used in accordance with its use (Jensen, 1986). By returning the free cash flow to shareholders, share repurchase will reduce conflict.

Chen et al., (2007) expressed the opinion that companies with high value of the company tend to not share repurchase decisions, and vice versa, a company with a low value of the company tends to do the share repurchase. Share repurchase is also a carrier signal to prospective investors and investors that the company has a promising future expectations.

Free cash flow hypothesis implies, companies with excess cash flow and little debt payments will make a bigger share repurchase. Dittmar (1999) argues, if the company has excess cash flow, then the company can withstand it or distribute profits to shareholders. Companies with high cash flow are at high risk for excessive investment, and therefore, it is a profit to distribute excess cash to shareholders. According to Grullon and Michaely (2002), share repurchase is better to do than to do with the other policies without a better return when the company's surplus cash funds. Oswald and Young (2004) argues, share repurchase policy is used as a distribution of surplus cash and change back the impression of the company's stock is undervalued.

Research Fenn and Liang (1997) showed that the share repurchase program is emphasized in order to reduce the agency cost by way of distributing free cash flow in the form of share repurchase rather than a signal of the share repurchase program which means that in terms of signaling theory share repurchase program does not do when stocks tend to be undervalued companies. Buyback of shares by the company can be seen also as another form of dividends. Substitution hypothesis explains that the share repurchase and dividends are perfect substitutes (Miller and Modigliani, 1961 in Lee and Rui, 2004). However, Lee and Rui (2004) explain that researchers have yet to get consistent results in concluding whether the dividend and share repurchase program that is interchangeable. Substitution is associated with the management's decision to choose a distribution of cash flow by changing the dividend payment decision to share repurchase, or otherwise, share repurchase with dividend payments.

Jagannathan et al., (1999) suggests that flexibility hypothesis (temporary cash flow), that the payment of dividends will demonstrate a commitment to continuously and used to distribute permanent cash flow, while the share repurchase used as payment for a temporary cash flow of an undervalued company tend to choose a share repurchase rather than dividend payments. Related to the value of the undervalued companies, it is also related to the possibility of a takeover from an outside company. Undervalued companies that have tended to do a share repurchase to boost stock price or return the liquidity of these shares. If the perceived value of the company is too low or overpriced securities tend to decrease the company's decision to repurchase shares to increase the return value of the company is likely to be done.

## 1.2 Research Problem

Some of the problems in this research are as follows:

1. Is the free cash flow positive influence on firm's decision to share repurchase?



2. Is the firms value negatively affect the firm's decision to share repurchase?
3. Is the firm size positive influence on firm's decision to share repurchase?
4. Is leverage negatively affect the firm's decision to share repurchase?
5. Are earnings per share positive impact on the firm's decision to share repurchase?
6. Are dividends negatively affect the firm's decision to share repurchase?

## **2. Literature Review**

### **2.1 Agency Theory**

When the owner of the firm sold some of its shares to other investors will bring the agency problem. Manager appointed by the shareholders of the firm so ideally would act "on the best interest of stockholders", but in practice the agency conflict. One way that can be used to reduce this agency problem is dividing the proportion of shares to management, where management has the right as well as principals, not only as an agent. Of the several theories exist regarding the agency, just a bit of explaining about his relationship with the share repurchase. From the above, one of the programs that are considered able to resolve the agency problem is with the share repurchase program.

Agency theory explains that the share repurchase will ease the divergence of incentives between management and shareholders. Share repurchase shares of the company increased the percentage ownership of those who do not sell their shares. If an employee or director who has not sold its shares in the share repurchase program, the proportion of ownership will also increase. if a large percentage of ownership, the encouragement of employees and directors who own shares of companies that act as owners tend to be larger.

When the management to distribute excess cash through a share repurchase, then it will give confidence to our shareholders. By using the funding wisely or do not cause a negative net present value for the company, then management will increase trust and confidence of shareholders. Certainly the provision of dividends is also a similar function where it is likely no more unique than share repurchase.

According to Dittmar (1999), by reducing the amount of equity, the share repurchase will change the leverage ratio, while still allowing managers to distribute cash without reducing earnings per share of stock. In the management incentive hypothesis (Dittmar, 1999), stock options encourage managers to change the share repurchase as a dividend if the share repurchase do not diluted the value of company stock and shares reserved for managers when they are acquired through stock options. Fenn and Liang (1997) argued that stock options will increase the incentive for management to provide maximum performance for the company, including distribution of free cash flow to shareholders.

Free cash flow hypothesis states that when there is excess free cash flow, the company faced a decision to distribute free cash flow, or hold it as retained earnings. Distribution tends to be done by paying in advance the company's debts, investments, payment of dividends, or repurchase of outstanding shares. When there is no longer a material financial cost to be paid, and then sets tend to be good investment opportunities, and dividend payments in this case relate to enhance shareholder value are not material, then one good decision is to do the share repurchase.

### **2.2 Signaling Theory**

Explanation of information signaling hypothesis (Lee and Rui, 2004) assumes that the share repurchase by the company needed and used as a liaison positive



information from the well-informed managers to shareholders of poorly-informed on the capital market characteristics and classified as shaped by the nature information asymmetry occurs. They argued that managers try to do a share repurchase to provide information signal increased corporate profits.

Other explanations in the undervaluation hypothesis is the share repurchase is used by corporate managers as a policy to provide information about the company experienced undervaluation. If managers believe that the company had undervalued according to internal company information, managers will try to report an increase in the value of the company's potential share repurchase to do. (Lee and Rui, 2004). Ikenberry et al., (1994) argued, when the manager asked why do the share repurchase, the main reason is due to "undervaluation" and the shares they represent "a good investment". Dann et al., (1991) in Jin (2000) argues that the share repurchase to give a good signal of future earnings and also lowers the systematic risk at the time of the announcement of share repurchase. Undervaluation hypothesis put forward Dittmar (1999) explains that, with the share repurchase is associated with a value of undervalued companies, it will increase the value of shares of the company itself. If the company believes that the stock had undervalued the company will do the share repurchase as a signal to the market.

## **2.3 Previous Research dan Formulation Hypothesis**

### **2.3.1 Influences of Free Cash Flow to the Decision of Share Repurchase**

Free cash flow hypothesis implies that firms with high levels of excess cash and low debt levels will make share repurchase (Vermaelen, 1981). Fenn and Liang (1997) showed that the free cash flow is the main motivation for companies to share repurchase program. Evans et al., (1999) proved that the free cash flow is the main driving factors in the decision to share repurchase. It is possible for a company that does share repurchase to signal that the company has a large free cash flow by investing on the share repurchase. Dittmar (1999) of research results prove that the free cash flow positive and significant effect on the company's decision to repurchase shares. Based on several studies of the above, the author can take the hypothesis that:

H1: Free cash flow positively influence on corporate decision to repurchase shares

### **2.3.2 Influence of Firm Value to Share Repurchase Decision**

One of the reasons the company to decide to share repurchase (Ikenberry et al., 1994, Fenn and Liang, 1997; Weston et al., 2002; Ramakrishnan et al., 2007) is to enhance shareholder value, especially if the company's stock has undervaluation. Distribution of free cash flow that is intended in this case is a share repurchase undervalued shares to be back to normal. Wang et al., (2009) shows, the negative influence of the company's share repurchase decisions to be made. His research shows a negative value to the value tobins'q high and vice versa, indicating a positive value to the value of low tobins'q.

Chen et al., (2007) concluded that the average cumulative abnormal return is negative and significant effect on share repurchase announcement by using the measurements of Tobin's Q. In the company of high value, abnormal returns are significantly negative effect on free cash flow, and the company that company value is low, abnormal return is significantly positive effect on free cash flow. Padgett and Wang (2007) showed that tobins'q negatively affect the company's decision to



repurchase shares. Based on several studies of the above, the authors formulated the hypothesis that:

H2 : Firm Value negatively influence on corporate decision to repurchase shares

### **2.3.3 Influence of Firm Size to Share Repurchase Decision**

Large size companies tend to do a share repurchase than the size of a small company. Jin (2001) finds that firm size is measured as the natural log of MVE (market value of equity) for two days before the announcement. Zeghal (1983), Eddy and Seifert (1988), and Mitra and Owers (1990) in the Jin (2001) argues that firm size is a proxy for the availability of corporate information to the public; the larger the company, the greater the availability of information. Large companies will be more inclined to share repurchase where it is due to greater availability of information and level of information asymmetry smaller. In contrast, firms with smaller size have a small availability of information and level of information asymmetry is greater. Thus, the value of the share repurchase announcement that carry information to the market will be greater for large firms than small firms. Based on several studies of the above, the hypothesis was formulated:

H3 : Firm Size positively influence on corporate decision to repurchase shares

### **2.3.4 Influence of Leverage to Share Repurchase Decision**

Free cash flow hypothesis states that managers will announce the payment of any free cash flow. This is as a signal to the market that the presence of high free cash flow in a company one of which is caused by low levels of debt in the firm (Nixon et al., 2007). However, if it is associated with optimum leverage hypothesis stated by Vermaelen (1981) in Ramakrishnan et al., (2007) that when connected with an optimal capital structure, corporate decision to do the share repurchase is to increase the debt ratio impact on tax reduction and increasing the value of the company. Further, Fenn and Liang (1997) proved that leverage negatively affect the company's decision to repurchase shares. Based on several studies of the above, the hypothesis was formulated:

H4: Leverage negatively influence on corporate decision to repurchase shares

### **2.3.5 Influence of Earning per Share to Share Repurchase Decision**

EPS of a company's information shows the amount of net earnings distributed to all shareholders of the company. Earning per share is a ratio that shows the level of income per number of shares outstanding. Share repurchase will conduct a reduction in the number of outstanding shares by purchasing shares in the market. So the divisor from the tax net profit is getting smaller, and the results of the EPS is the greater. Share repurchase which made will be associated with a trend away from the dilutive effect of shares where the number of shares outstanding would be reduced (Ramakrishnan et al., 2007; Nadarajan et al., 2009). Based on several studies of the above hypothesis is formulated:

H5: Earning per Share positively influence on corporate decision to repurchase shares

### **2.3.6 influence of Dividend to Share Repurchase Decision**

Free cash flow which largely used to pay dividends or pay debts. If the payment is not done then do share repurchase program, so which the smaller the dividend paid by a company with which small commission of corporate debt is to distribute free cash



flow is to do a share repurchase (Fenn and Liang, 1997). Only permanent or constant increase in the free cash flow which likely to be distributed as dividends. The increase in earnings is temporary or seasonal are not distributed as dividends, but tends to be used as a share repurchase for some period (Ramakrishnan et al., 2007). In addition to this, related to the substitution hypothesis (Lee and Rui, 2004; Grullon and Michaely, 2002; Dittmar, 1999) which describes the share repurchase program itself can substitute dividend payments.

Dividends paid in cash should be replaced in the form of share repurchase. With the turn of the program does pay dividends in the form of share repurchase, dividend payments will be minor. Furthermore, also related to the flexibility hypothesis that explains the share repurchase is likely the best option as the distribution of free cash flow compared to the payment of dividends when there is an increase free cash flow is temporary (in certain periods and not fixed). While the dividend payment is better done when an increase in free cash flow is permanent (constant increase / continue in the current period) (Dittmar, 1999) Based on several studies, the hypothesis was formulated:

H6: Dividend negatively affect the corporate decision to repurchase shares

### 3. RESEARCH METHOD

#### 3.1 Population and Research Sample

In this study population used is a company listed on the Indonesia Stock Exchange 2004-2009 period. Furthermore, which study sampled the company - a company listed on the Indonesia Stock Exchange (BEI), which do share repurchase and for comparison in this study is which companies do not share repurchase. The selection of samples in the period 2004-2009 is based on the share repurchase announcement which available on the website [www.idx.co.id](http://www.idx.co.id). Samples were collected using purposive sampling method. Criteria of the sample with purposive sampling method in this study are as follows:

1. Firms that do share repurchase period 2004-2009
2. Firms that provide annual financial reports 2003-2009 period
3. comparison companies (companies that do not share repurchase on the same industrial group of companies that share repurchase. Companies are selected based on the comparative value of equity is close to the same value of the equity of companies that share repurchase) in the period 2004-2009.

#### 3.2 Operationalization of The research Variables

##### 3.2.1 Dependent Variables

In this research, which is used as the dependent variable is the share repurchase. This variable is a categorical variable (non-metric), with number 1 for companies that share repurchase and the number 0 for firms that do not share repurchase.

##### 3.2.2 Independent Variables

###### 1. Free Cash Flow

The formula for calculating free cash flow (research Fenn and Liang, 1997) are:

$$FREE\ CASH\ FLOW_{it} = EBIT_{it} + DEPRECIATION_{it} + AMORTIZATION_{it} - TAXPAID_{it} - DIVPAID_{it} / ASSET_{it}$$

where:



|                         |                                      |
|-------------------------|--------------------------------------|
| $FREE\ CASH\ FLOW_{it}$ | = Retained earnings firm             |
| $EBIT_{it}$             | = Earnings before interest and taxes |
| $DEPRECIATION_{it}$     | = Depreciation Expense               |
| $AMORTIZATION_{it}$     | = Amortization Expense               |
| $TAXPAID_{it}$          | = Taxes Paidfirm                     |
| $DIVPAID_{it}$          | = Dividend Paid                      |
| $ASSET_{it}$            | = Firms Asset                        |

## 2. Firm Value (Tobins' Q)

This variable is the ratio of market capitalization value of equity plus the book value of debt to total assets. The formula used to calculate Tobin's q according to research by Wang et al., (2009) are:

$$Tobin's\ Q = MVE_{it} + DEBT_{it} / ASSET_{it}$$

where:

|              |                         |
|--------------|-------------------------|
| Tobin's Q    | = Firm Value            |
| $MVE_{it}$   | = Firm Size i periode t |
| $DEBT_{it}$  | = Total Debt            |
| $ASSET_{it}$ | = Total Asset           |

## 3. Firm size

Firm size is a proxy that is used as one of the company's motivation to do the share repurchase in which the smaller the company the greater the required information (Jin, 2001). The formula used to calculate the size of the company according to research by Jin (2001) are:

$$\begin{aligned} \text{Size} &= \text{LN MVE} \\ MVE_{it} &= \text{Closing price}_{it} \times \text{Share Outstanding}_{it} \end{aligned}$$

where:

|                                 |  |
|---------------------------------|--|
| $MVE_{it}$                      | = Market Value Equity as proxy Firm Size |
| Closing Price <sub>it</sub>     | = Closing Price                          |
| Share outstanding <sub>it</sub> | = Number of Share Outstanding            |

## 4. Leverage

The formula to calculate the leverage (Fenn and Liang, 1997) are:

$$LEVERAGE_{it} = DEBT_{it} / ASSET_{it}$$

where:

|              |               |
|--------------|---------------|
| $DEBT_{it}$  | = Total Debt  |
| $ASSET_{it}$ | = Total Asset |

## 5. EPS (Earning per Share)

Earning per Share variables (EPS) were measured with (Ramakrishnan et al., (2007):

$$EPS_{it} = EAT_{it} / \text{Share Outstanding}_{it}$$

where:

|                                 |                               |
|---------------------------------|-------------------------------|
| $EPS_{it}$                      | = Earnings per Share          |
| $EAT_{it}$                      | = Earnings After Taxes        |
| Share outstanding <sub>it</sub> | = Number of Share Outstanding |



#### 6. DPS (Dividend per Share)

This variable is measured by the ratio of dividends paid to the Share Outstanding (number of shares outstanding). The formula to calculate the dividend per share according to research by Fenn and Liang (1997) is:

$$DPS_{it} = DIVPAID_{it} / \text{Share Outstanding}_{it}$$

where:

$$\begin{aligned} DPS_{it} &= \text{Dividendpaid per share} \\ \text{Share Outstanding}_{it} &= \text{Number of Share Outstanding} \\ DIVPAID_{it} &= \text{Dividend Paid} \end{aligned}$$

### 3.5 Methods and Data Analysis

Data analysis methods used to test the hypothesis is to use logistic regression models. Logistic regression model analysis was used to observe the effect of independent variables on the dependent variable, where the independent variable is a mixture of continuous variables (metrics) and categorical (non-metric) (Ghozali, 2001). This study uses a model and analysis as follows:

$$SR = \alpha + \beta_1 FCF_{it} + \beta_2 \text{Tobin's } Q + \beta_3 LNMVE_{it} + \beta_4 LVRGE_{it} + \beta_5 EPS_{it} + \beta_6 DPS_{it} + e$$

where:

$$\begin{aligned} SR &: \text{Share Repurchase (Categorical variable with value 1 to share repurchase and the number 0 does not do the share repurchase)} \\ FCF &: \text{Free cash flow} \\ \text{Tobin's } Q &: \text{Firm Value} \\ LNMVE &: \text{Firm Size (Log Natural Market Value to Equity)} \\ LVRGE &: \text{Leverage} \\ EPS &: \text{Earning per Share} \\ DPS &: \text{Dividend per Share} \\ \alpha &: \text{constants} \\ \beta &: \text{Regression coefficient} \\ e &: \text{Error Term} \end{aligned}$$

Furthermore, in order to assess the feasibility of the model (fit model), it can be done by comparing the numbers on-2loglikelihood (-2LL) intercept only with numbers on-2Loglikelihood (-2LL) final. The model is said to fit if the value of the-2LL intercept only a decline in the value-2LL significant and the results are final. If a decline in the value-2loglikelihood and significant, meaning that the model used logistic models showed a good (fit).

## 4. Results and Discussion

### 4.1 Sample Research

From the initial search for the availability of company financial statements, this study can only get as many as 19 company financial statements. Description of the sample in this study are listed in table 4.1.



Table 4.1  
Research Sample

| Firms Sample   | Number of Firms | Percentage |
|--|-----------------|------------|
| Companies listed on Indonesian Stock Exchange (2004-2009)                                    | 341             | 100%       |
| Corporate do share repurchase  | 21              | 6.1583%    |
| Financial statements are not available   | 2               | 0.5865%    |
| The number of companies that met the study criteria for a company that does share repurchase | 19              | 5.5718%    |
| The number of comparison companies (do not share repurchase)                                 | 19              | 5.5718%    |
| The number of companies that met the study criteria group of Company                         | 38              | 11.1436%   |
| Agriculture, Forestry and Fishing  | 4               | 10.5263%   |
| Banking  | 2               | 5.2632%    |
| Construction   | 2               | 5.2632%    |
| Manufacture  | 14              | 36.8421%   |
| Mining & Mining Services   | 8               | 21.0526%   |
| Others   | 2               | 5.2632%    |
| Real Estate & Property   | 2               | 5.2632%    |
| Telecommunication  | 2               | 5.2632%    |
| Transportation Service   | 2               | 5.2632%    |
| Number of sample   | 38              | 100%       |

Sources: Secondary data, 2011

#### 4.2 Descriptive Statistics

Descriptive statistics can be seen in table 4.2 below.

Table 4.3  
Descriptive Statistics

| All Observation                          |          |          |            |                |
|--|----------|----------|------------|----------------|
| Variable                                 | Mean     | Minimum  | Maximum    | Std. Deviation |
| FCF                                      | 0.0967   | -0.5793  | 0.4601     | 0.1885         |
| Tobin'sQ                                 | 3.7547   | 0.4473   | 54.0682    | 8.6080         |
| LNME                                     | 29.0383  | 24.1093  | 34.4942    | 2.3554         |
| LEVERAGE                                 | 0.4182   | 0.0475   | 0.9066     | 0.2228         |
| EPS                                      | 657.1225 | -54.0000 | 15681.5900 | 2527.0898      |
| DPS                                      | 133.1875 | 0.0000   | 1391.9236  | 285.0251       |
| Corporate Conduct Share Repurchase       |          |          |            |                |
| FCF                                      | 0.1265   | -0.5793  | 0.4601     | 0.2035         |
| Tobin'sQ                                 | 1.9757   | 0.4569   | 4.1568     | 1.1663         |
| LNME                                     | 29.0614  | 24.8325  | 32.2085    | 2.2130         |
| LEVERAGE                                 | 0.4297   | 0.0974   | 0.9066     | 0.2362         |
| EPS                                      | 170.3733 | 7.0000   | 562.0000   | 180.9220       |
| DPS                                      | 75.0312  | 0.0000   | 410.0000   | 108.2663       |
| Company which Not Doing Share Repurchase |          |          |            |                |



|          |           |          |            |           |
|----------|-----------|----------|------------|-----------|
| FCF      | 0.0668    | -0.3927  | 0.3554     | 0.1724    |
| Tobin'sQ | 5.5339    | 0.4473   | 54.0682    | 12.0112   |
| LN MVE   | 29.0152   | 24.1093  | 34.4942    | 2.5506    |
| LEVERAGE | 0.4067    | 0.0475   | 0.8837     | 0.2143    |
| EPS      | 1143.8716 | -54.0000 | 15681.5900 | 3548.8374 |
| DPS      | 191.3438  | 0.0000   | 1391.9236  | 384.8769  |

Sources: Secondary data, 2011

### 4.3 Testing Hypotheses and Discussion

#### 4.3.1 Testing Hypothesis

This study aims to clarify the factors affecting the company's decision to repurchase shares. To test these factors, there are several hypotheses are developed. The whole hypothesis in this study were tested using logistic regression. Dependent variable is given a value of 1 for companies that share repurchase and 0 to companies that do not share repurchase. The logistic regression test results are presented in table 4.3.

Table 4.3

Logistic Regression Results

| Variable                            | Coeff. | Wald                  | Sig.   |
|-------------------------------------|--------|-----------------------|--------|
| <i>Intercept</i>                    | 34.298 | 5.267                 | 0.023  |
| FCF                                 | 4.223  | 2.193                 | 0.141  |
| TobinsQ                             | 1.887  | 4.694                 | 0.034* |
| LN MVE                              | 1.481  | 5.440                 | 0.020* |
| LEVERAGE                            | -8.234 | 4.453                 | 0.030* |
| EPS                                 | -0.009 | 4.396                 | 0.034* |
| DPS                                 | 0.008  | 2.616                 | 0.116  |
| -2loglikelihood Intercept Only      |        | 52.679                |        |
| -2loglikelihood Final               |        | 33.669                |        |
| Chi-Square                          |        | 19.010                |        |
| Classification                      |        |                       |        |
|                                     |        | Number<br>Observation | %      |
| Classification of Share Repurchase  |        | 19                    | 68.4%  |
| Classification Non Share Repurchase |        | 19                    | 89.5%  |
| Total Classification power          |        | 38                    | 78.9%  |

Sources: Secondary data, 2011

From the above test results, the results of logistic regression on the initial model (-2LL intercept only) indicates a value of 52 679 and in the final model (-2LL Final) indicates a value of 33 669. Of the -2LL intercept only with -2LL Final that are impaired and have a significance level of 1%, it can be concluded that this model is a good logistic models (fit). Nagelkerke R-Square in this model, has a value of 0.525. This suggests that the variability of independent variables has the effect of 52.5% against variability of dependent variable and the remaining 47.5% is explained by other variables not included in the regression model.

Overall this model has the classification of 78.9%. The classification for companies that share repurchase by 68.4% and the classification for companies that do



not share repurchase of 89.5%. Based on the Nagelkerke value can be said that free cash flow variable, the value of the company, firm size, leverage, earnings per share, and dividends can be used to predict the company's decision to repurchase shares. The first hypothesis to test for variable free cash flow (FCF) in this model, showing the regression coefficient has a value of 4223 with a significance level > 5%. Statistically significant regression coefficient has a value of positive FCF but the effect is not significant. Therefore, the results of this study reject the first hypothesis. Although the first hypothesis is rejected, this suggests that the greater free cash flow the greater the tendency of the company's decision to share repurchase and reverse the less free cash flow will be smaller than the tendency of companies to share repurchase decisions. With no significant effect, this means that free cash flow is not the most important factor in the company's decision to repurchase shares so that the variable free cash flow does not support the hypothesis of excess capital in the signaling theory in relation to the company's decision to repurchase shares. The results of this hypothesis also does not support research Fenn and Liang (1997) and Evans et al., (1999) which states free cash flow positive influence on the company's decision to repurchase shares.

Testing for the second hypothesis to prove that the firm value negative influence the company's decision to repurchase shares. The results of the tests performed on the variable value of the company (Tobins' Q) denotes the regression coefficient with a value of -1887 and has a significance level of <5%. Regression coefficients were statistically Tobins' Q has a negative and significant value. Therefore, the results of this test to receive the second hypothesis. The second hypothesis is accepted indicating that the smaller the value of the company (undervalued), the greater the tendency of companies to share repurchase decisions. Vice versa, the greater the value of the company (overvalued), then the tendency will be smaller too firm to share repurchase decisions. The results also support the research of Wang et al., (2009) and Chen et al., (2007) which states the value of the company adversely affect the company's decision to repurchase shares.

The third hypothesis testing showed variable size enterprises (LNMVE) has a regression coefficient value of 1481 with a significance level of <5%. Statistically these results suggest that firm size has a positive influence on the company's decision to repurchase shares and significant. With the test results are positive and significant, the results of this test to receive the third hypothesis. The third hypothesis is accepted to mean the larger the company the greater the tendency of companies to share repurchase decisions. The results of this study support the research of Jin (2001) which states the size of the company's positive influence on the company's decision to repurchase shares.

The fourth hypothesis testing showed a negative regression coefficient of leverage with a value of -8234 and has a significance level of <5%. Statistically significant regression coefficient of LEVERAGE has a negative and significant value. Therefore, the results of this test to receive the fourth hypothesis. The fourth hypothesis is accepted indicating that the smaller the leverage, the greater the tendency of companies to share repurchase decisions. These results are consistent with research conducted by Nixon et al., (2007) and Ramakrishnan et al., (2007) which describes the leverage negatively affect the company's decision to repurchase shares.

The fifth hypothesis testing to demonstrate the results of the regression coefficient of variable earnings per share (EPS) that is equal to -0009 with a significance level of <5%. These statistical results show earnings per share has a negative and significant effect. Therefore, the results of these tests reject the fifth



hypothesis. The fifth hypothesis is rejected is showing evidence that the lower earnings per share (EPS), the greater the company's decision to repurchase shares. The results of this study is consistent with research by Ramakrishnan et al., (2007) and Nadarajan et al., (2009) who concluded that the earnings per share positive impact on corporate decision to repurchase shares.

Testing for the six hypotheses to prove that dividends negatively affect corporate decision to repurchase shares. The results of tests performed on the dividend per share (DPS) in this model, showing the regression coefficient has a value of 0008 with a significance level > 5%. Statistically significant regression coefficient has a value of positive FCF but the effect is not significant. Therefore, these results reject the hypothesis of the sixth. With the sixth hypothesis is rejected, then the greater the dividend per share does not indicate that the greater the tendency of corporate decision to share repurchase and reverse the smaller the dividend per share also does not show the tendency of small companies do share repurchase decisions. The results of this study is consistent with research conducted by Ramakrishnan (2007), Lee and Rui (2004), Grullon and Michaely, (2002) and Dittmar (1999) which states that dividends negatively affect corporate decision to repurchase shares.

## 5. CONCLUSIONS, LIMITATIONS, AND IMPLICATIONS

### 5.1 Conclusions

Results of research on the testing of hypotheses that have been done show that the main motivation in conducting share repurchase firms to issue more shares undervalued compared to the problem of agency (agency problem). Testing all hypothesis model using logistic regression models used the conclusions drawn in this study showed a good model and fit. Some of the conclusions in this study include:

1. Testing the first hypothesis related to free cash flow yield and no significant positive effect indicates that the share repurchase decision is not intended to reduce the agency problem of excess cash flow (free cash flow).
2. The company's decision to repurchase shares is due to the problem of undervalued companies where the lower value of the company, the company's decision to repurchase shares will be even greater. Companies with lower firm value (undervalued) are vulnerable to be taken over (take-over/hostile takeover).
3. Firm size has positive effects on share repurchase decisions which means that the larger size of the company, the greater the company's decision to repurchase shares. Large size companies tend to have internal funds and the ability to buy back a large share.
4. Leverage negatively affect the company's decision to repurchase shares is received. In the free cash flow hypothesis states that when there is excess cash the company has a policy to hold it as retained earnings or distribute them. The decision to share repurchase, share repurchase firms tend to perform not only in the absence of any investment opportunity set, but the low level of corporate debt.
5. Earning per share negative impact on the company's decision to repurchase shares. It is not in line where the assumption is violated is the earnings per share positive impact on the company's decision to repurchase shares. Explanation of this negative effect can be seen from the funds used to repurchase shares not all come from internal funds, but the possibility could come from debt.



6. Dividends have a positive influence on the company's decision to repurchase shares. It is not appropriate substitution hypothesis and the flexibility hypothesis which states share repurchase and dividends are substitution.

## 5.2 Limitations

There are some limitations to which these limitations are as follows:

1. Samples are used only in the period 2004-2009 with the number of samples that met the study criteria were 38 companies from the sample population of 341 companies listed on the Stock Exchange, including 19 companies from 21 companies that share repurchase and 19 comparison companies that do not share repurchase. The limited amount of information share repurchase in the current period and annual financial statements information that is not provided is a limitation of this study.
2. This study did not consider other variables that may affect the company's decision to repurchase shares.

## 5.3 Implications

Limitations in this study, the research suggestions and implications that can be provided include:

1. Examine other factors that allow it to affect the company decided to share repurchase. Another factor is the example of stock options related to management incentive hypothesis. This relates to the purpose of management to increase the number of shares held for the share (held in reserve) to the management and employees with much better purpose as well in reducing the agency problem.
2. Takeover by inserting dummy data variable with a tendency to see the takeover of another company. The results showed that the takeover has a positive effect on the company's decision to repurchase shares (Dittmar, 1999).

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## INDONESIA STOCK EXCHANGE'S ANOMALY: THE RAMADHAN EFFECT

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### ABSTRACT

This paper attempts to examine anomaly event in Indonesia Stock Exchange while the month of Ramadhan, this phenomenon was called The Ramadhan Effect. The Ramadhan effect is the condition of return market in stock exchange become lower during Ramadhan. Return market on this paper was using the data from 2007 until 2010, and it was examined by independent sample t-test. The window periods on this paper divided into three parts, return market in the Sya'ban, return market in the Ramadhan, and return market in the Syawal. Based on the hypothesis examination that's using t-value, the result of the test shows that there wasn't the Ramadhan Effect in Indonesia.

**Keywords :** The Ramadhan Effect, Sya'ban, Ramadhan, and Syawal

### 1. Introductions

#### 1.1 Background

The January Effect is a phenomenon that occurred in December when the stock price to be abnormal. The January Effect is identified with the phenomenon of The January Effect because, according to some researchers between January and December have relevance in shaping the stock price in the stock market. The January Effect or The Year End Effect is a calendar effect wherein stocks, especially small cap stocks, have historically tended to rise in price during the period starting from the end of December and ending on the fifth trading days in January.

Chen (2003) explained that relation between December and January due to the pattern of trade in December of that decline, investors tend to sell shares of common stock. While leading stocks diverted sales in January for the realization of capital gains. Other than for tax reasons, according to Haugen (1993) January effect occurs because the assumption of capital market professionals say that the high return is a compensation system that occurs naturally in the securities industry and consider it a "bonus christmast". This situation can be exploited by some investors to earn capital gains by buying stocks at year-end sale at a price below the market price. But according to Manurung (2001) in Arimbi (2009) based on Indonesia Effect January research can be concluded that the January Effect phenomenon does not occur in the Indonesian capital market. Endro Research (2000) in Arimbi (2009) stated that no significant effect January occurred in Indonesia's capital market. This is possible because Indonesia is different from culture to American culture or other European countries.

Research on the work done by the investor to obtain or delay in realization of Abnormal Return (Gain Capital) also continued to study anomalous phenomena that occur at religious events. Recent years researchers in Islamic countries such as Al-Ississ (2010),



Mustafa (2005), Sayyed et al. (2000) and Hussain (1998) conducted a study on Religious Calendar Effect. Religious Calendar every religion must have its own calendar to determine when the execution of religious event.

Differences in some of the religious calendar systems of course different from the calendar business calendar system that uses the Gregorian calendar. Calculations using the Gregorian calendar Solar Calendar or Sun systems. To calculate the religious calendar, usually using the system or use the Lunar Month, a religion that uses the lunar system is Islamic. Islam in the calendar using the Lunar Calendar is commonly called the Hijri calendar. For example, on September 13, 2007 based on the Gregorian calendar to coincide with the 1st of Ramadan 1428H. Differences in the dating system that led to the indication of differences in the stock market reaction to Muslim countries or countries whose population is predominantly Muslim. (Mustafa, 2005)

Differences in market reaction during Ramadan because Ramadan is a holy month for Muslims. In the month of Ramadan Muslims are prohibited to eat and drink during the day. Muslims also avoid themselves from sin and the deeds that are speculated, because of religious beliefs in Islam acts as a gambling speculation. While activity in the equity markets are more likely to speculate on stock price movements. Research Husain (1998) concluded that the Muslim community in Pakistan in the month of fasting tended to reduce their activity in equity markets, because they perceive the stock market speculation, including gambling. Investigated the incident in Pakistan Capital Markets and Capital Markets Saudi Arabia.

The calendar system differences lead to differences in reaction to the Muslim community in the day - some days that coincide with religious activities. One example of a phenomenon resulting from the difference between the calendar business calendar systems with this phenomenon in the religious calendar is Ramadan (The Effect of Ramadan).

After a month of Ramadan, Muslims will celebrate Eid al-Fitr which falls in the month of Shawwal. To welcome the day of Eid al-Fitr, people - people buy new clothes and buy furniture. Increased levels of consumption, it is showing signs of the expected increase in food prices, clothing prices, and prices of other commodities. The behavior during Ramadan will ultimately have an impact on the level of trading in the stock market. According to Mustafa (2005) after Ramadan, there was an increase in stock market trading Karahaci.

After Ramadan, the Muslim community will enter the month of Shawwal. In the month of Shawwal Eid holiday there, the level of consumption at the feast of Eid al-Fitr to be increased from the usual day (Arimbi, 2009). Based on the difference between day calendar used religious and business calendar day in Muslim countries, resulting in differences in market reaction to significant capital. Differences in the reaction is particularly true during the month of Ramadan. Research on the phenomenon of The Ramadhan Effect has not been done in Indonesia, but the month of Ramadan is also experienced by the State of Indonesia. Although Indonesia has a different level of fanaticism to the Middle East region and significant cultural differences in the people of Indonesia, it is not Ramadhan Effect The phenomenon may occur in Indonesia.



## 1.2 Research Problems

Based on the background described above who have stated that the indication of the phenomenon of The Effect of Ramadan occurs in the Indonesian capital market. Then the formulation of the problem in this study were:

1. Is the market return in the month of Ramadan in Indonesia Capital Market there is a difference when compared with the market return in the month Ramadhan?
2. Is the market return in the month of Ramadan in Indonesia Capital Market there is a difference when compared with the market return in the month of Shawwal?

## 2. Literature Theory

### 2.1 Efficient Market Hypothesis(EMH)

Efficient Market Hypothesis (EMH) was invented by a French mathematician in 1900. Content of the theory is "through the maximum satisfaction of an agent, efficient capital market requires that agents have rational expectations level. A rational agent will change their expectations are appropriate where there is relevant information ". (Fama, 1970).

Efficient market concept first put forward and popularized by Fama (1970). A market said to be efficient if no-one, both individual investors and institutional investors, will be able to earn abnormal returns (abnormal return), after adjusting for risk, using the existing trading strategies. On an efficient capital market value of securities reflect the overall information. Information here includes past information and the information in the future, as well as the growing opinion in the market and affect the market price of a security.

While the market is not efficient is a condition in which the outstanding securities prices do not reflect the information available, or there is a lag in price adjustment (Tandelilin, 2001:114). Fama (1970) defines efficiency in three levels, namely, Market Efficiency Weak form, semi strong form market efficiency, and strong form market efficiency.

### 2.2 Market Anomaly Research

#### 2.2.1 The Monday Effect Study

The Monday effect is a form of irregularities that occurred on Monday. When Monday arrived, stock returns are significantly negative obtained. Budhileksmana (2005) explained that the research on the Monday Effect was first performed by Field (1931), followed by French (1980), Lakonishok and Maberly (1990), Kamara (1997), Jaffe, et al. (1989), Abraham and Ikenberry (1994), Wang, et al. (1997), Mehdian and Perry (2001), and Sun and Tong (2002). Based on the above mentioned study concluded that the return on Monday is different than the return on a typical day. Mehdian and Perry (2001) discovered the phenomenon of the Monday Effect only occurs on small Cap index (small companies).

Research conducted by Sun and Tong (2002) in Budhileksmana (2005) states that in the United States The Monday Effect occurs in two last Monday of each month. Additionally days the value of a negative return on Mondays is affected by a negative return on Friday. While the study by Rahman (2009) states that the price of a negative return on the Dhaka Stock Exchange on Monday, and just be positive on Wednesday.



### 2.2.2 The Weekend Effect Study

The Weekend Effect is an action taken by the investor by buying shares on the day before the weekend. The act of buying stock is a good signal for causing the price of the securities into a positive return. The research has been done by the French (1980) in Gradeazabal and Regulez (2002) states that from 1953-1977 the average stock over the past four trading days is positive, but the average return for Monday was significantly negative. Gibson and Hens (1981) proved low yielding unusual (even negative) on Monday. Rogalski (1984) in Gradeazabal and Regulez (2002) strengthens the research that occurred Monday Effect in the U.S. market, but in his research, Rogalski Close to close the divide in Nontrading Trading days and days. He found that all average negative returns that occurred on Friday close to Monday close that occurred during the study occurred during the nontrading period when closing the opening day Friday until Monday. Levi and Lakonishok (1982) states the average Monday returns are significantly negative and the average day yields a significantly positive Friday.

In Indonesia has researched the phenomenon of "The Weekend Effect" which occurs in Indonesian Capital Market. As stated by Binarto (2006) in Sofyan (2009) that the JCI Return Monday to Friday negatively correlated, positively correlated with Tuesday Wednesday Wednesday was positively correlated with Tuesday and Friday, Friday is negatively correlated with Monday and positive by Wednesday, while Thursday has no correlation with any other day. When using LQ45 Return the correlation that occurs that is positively correlated with Monday Tuesday Tuesday was positively correlated with the day Monday, Thursday was positively correlated with the day Friday, Friday was positively correlated with the day Thursday while Wednesday has no correlation with any other day. Iramani and Ahmadi (2006) in Sofyan (2009) also states that the lowest yield on Monday and the highest yields occurred on Tuesday.

Research on the phenomenon of The Weekend Effect has studied by Gayatri (2007) in Sofyan (2009) examine the existence Monday Effect, January Effect and Monthly Effect on the Jakarta Stock Exchange from 2003 to 2005 study period. In that study used proxy JCI (Joint Stock Price Index). The results of the research is to test monthly Monthly Effect effect are found in Indonesia market. Effect on January testing found significant results in April, September and December which showed that there Month Of-The-Year Effect. But the end result of this test did not find the January Effect in Indonesia while for the Monday Effect of testing found no significant results on Monday. But the significance of the other days are Tuesday, Wednesday and Friday. Based on the studies - previous research on The Weekend Effect can be stated that day trading is also an effect on the Capital Market in Indonesia.

### 2.2.3 The Ramadhan Effect Study

Ramadhan is the month that is considered holy by Muslims. Ramadan is marked by the Muslims who were forbidden to eat and drink from dawn until sunset. This month everyone's race - the race to get forgiveness from the Creator. They tend to perform religious activities more intensive than the previous months, multiply the worship, and especially reducing the alms increase their activity in the stock market. (Al-Issis, 2010). This is because they consider the activity tends to be Speculative Capital Markets. Indonesia's capital markets is that capital markets can not provide a good market information and clear, so the act of speculation in the Indonesian capital market must be very high. In addition, not all participants in the stock market is people who have expertise as well in analyzing capital market conditions, so the act of speculation is more often used by the Indonesian capital market investors. (Guide Finance, 2010).



The study by Husain (1998) which states that the Pakistan capital markets react to the market return in the fasting month of Ramadan, the month in which the situation is different from other months. In the months that people tend to spend their time to perform religious activities and public events while reducing economic activity. Impact of Ramadan is tested using regression on dummy variables and GARCH models are produced in the month of Ramadan that stock market volatility decreases. Research Mustafa (2005) explained in that the return rate - flat on the month of Ramadhan is lower and not significant.

In her study of Al-Ississ (2010) divides the day in the month of Ramadhan into six sections, namely: 1-10 days of Ramadhan, Ramadhan 11-20 days, 21-30 days of Ramadhan, the odd nights in the month of Ramadhan, the night even on the moon Ramadhan, and at night to 27 during Ramadhan. Based on these results we can conclude that there is no phenomenon of The Ramadhan Effect Pakistan Capital Market within the next 20 years (1988-2009). Based on research Ississ (2010) during Ramadhan resulted in increased trade in the last five days at 0.16% and the highest sales level achieved on day 27 of Ramadhan reached 0.37%, so it can be concluded in the month of Ramadhan stock market experienced a significant movement. Results of research conducted by Yavuz, et al. (2008), using the EGARCH model of the results obtained during religious holy month (Ramadhan and Moon Zulhidjah) market return is significant.

Influence the stock price movements and the sale of shares was affected by the month after Ramadan, the month of Shawwal which is the celebration of Eid. The celebration is an important event after a month of Ramadhan. Shawwal is considered as the feast of Ramadhan, considered a good month and a full pardon. To welcome the day that people tend to be more consumptive than previous months, so investors are not too keen in investing during the month of Shawwal. (Mustafa, 2005)

The above statement is supported by research conducted Husain (1998) which states that the level of private consumption increased in the month of Shawwal decrease the level of stock trading in the stock market. Decreased levels of this trade will be followed by decreased levels of stock returns on the capital market of Pakistan. Mustafa (2005) provide a statement and a different test results. In the month of Shawwal average rate of return to be positive and significant. This is indicated by the value of Kurtosis and Skewnes the highest found in the month of Shawwal.

### 2.3 Previous Research and Hypothesis Development

Effect calendar is one of the capital market distortion against the efficient market theory (Mustafa, 2005). Specifically regarding the anomaly violates the efficient market hypothesis weak form which assumes that all information contained on the historical share price of the stock price reflected in the present. (Elton and Gruber, 2000) in Budileksamana (2005). Anomaly pattern at this point can be found on the religious calendar systems or Religious Calendar System. One example is the difference in the calendar that is used to determine the month of Ramadan.

Based on research conducted by Husain (1998), were tested using the market return using regression on dummy variables and GARCH models show that in the month of ramadan stock market volatility decreases. This resulted in declining market return. Research conducted Mustafa (2005) Risk in the equity markets tend to be lower in the month of Ramadan. Because the average stock return in the month of Ramadan is positive and significant. Research by Oguvsoy and Guven (2004) in Yavuz, et al. (2008) that examined the effects of holy days (of Ramadan and the feast of sacrifice) in Istanbul stock returns were higher in the two days prior to the religious holy day took place. Through the



research conducted in Pakistan Capital Markets, Capital Markets Karahaci, and Capital Markets Istanbul show that there is an indication of the phenomenon of The Ramadhan Effect on the capital market, so the hypothesis is formulated:

**H1 : There is a the Ramadhan Effect phenomenon that occurs in the stock market during the month of Ramadan and before the month of Ramadan or the month of Ramadhan**

After undergoing the fasting month of Ramadan, Muslims will celebrate Eid in the month of Shawwal. Consumption level is higher than the month before Ramadhan. Increase in consumption causes decreased levels of public investment. Research conducted Arimbi (2009) showed that in a moment of Idul Fitri, people are more consumptive. It can be seen in the actions taken by the government in increasing the number of staples. Research Husain (1998) concluded that a decline in the month of Shawwal stock trading in the stock market of Pakistan. According to Mustafa (2005) in his study stated that the rate of food consumption indicate that increased raw material prices on the market. But after a seven-day peak in the month of Shawwal, investors will again seek funding to start their business so that in the month of Shawwal average rate of return on Karahaci be positive. This is indicated by the value of Kurtosis and Skewnes the highest found in the month of Shawwal, when compared with the month of Sha'ban, Ramadhan, Muharram, and Dzulhidjah. Of the research described above can be concluded that there is the possibility of the phenomenon of The Ramadhan Effect during the month of Shawwal, so the hypothesis is formulated:

**H2 : There is a phenomenon of The Ramadhan Effect in Indonesia capital market during the month of Ramadan and after Ramadan or the month of Shawwal**

### 3. Research Method

#### 3.1 Population and Research Sample

Population used in this study are all companies listed on the Indonesia Stock Exchange (BEI). This study did not have the sample data, but has the census for use throughout the company listed in Indonesia Stock Exchange with the observation period from 2007 to 2010.

#### 3.2. Research Data

The research data used in this study is the Composite Stock Price Index (CSPI) daily from 2007 to 2010, which is used to calculate the daily market return over the period of observation.

#### 3.3 Operationalization of Variables Events Study

Operationalization of the variable events study in this study uses only the Independent Variables. Independent variables are variables that are thought to affect-related variables, in this case is idnependent Variable Return is calculated from the Market Composite Stock Price Index (CSPI). Market Return or Daily Market Return in this study were divided into three parts, namely: Daily Market Return in the month of Ramadhan, Daily Market Return in the month of Ramadhan, the Daily Market Return in the month of Shawwal. Market Return (RMT) can be calculated by:

$$Rmt = \frac{IHSG_{it} - IHSG_{t-1}}{IHSG_{t-1}} \dots\dots\dots(1)$$



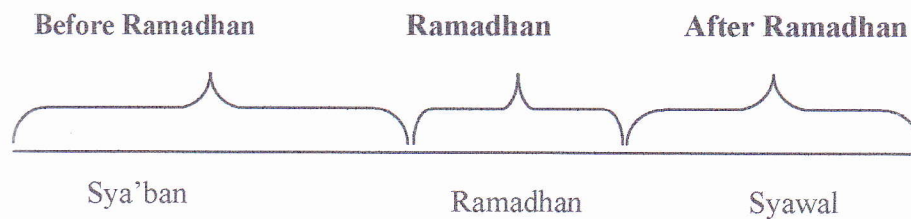
Where:

- R<sub>it</sub> = Return to the market-to-i during period t  
 IHSG<sub>it</sub> = Composite Stock Price Index to-i during period t  
 IHSG<sub>t-1</sub> = Composite Stock Price Index to-i during period t-1

### 3.4.3 Event Day

The observation period (Windows Period) at the at the time of Ramadhan, before and after Ramadhan. The Windows Event used in this study are:

#### Windows Event Used In This Research



### 3.4 Method and Data Analysis

#### 3.4.1 Test the Classical Assumptions

Assumptions of classical test used in this study is to test the normality of the data. In this study, the normality test used is the Kolmogorov-Smirnov test, by Comparing the Asymptotic Significant with alpha 0.05. Basic inference is said to be normally distributed if the data value of  $\rho$  the Kolmogorov-Smirnov test value  $> 0.05$  (Ghozali, 2006).

#### 3.4.2 Data Analysis Methods

This study uses the methods of data analysis and research the following steps:

1. Determination of Ramadhan schedule, before the month of Ramadhan, and after the month of Ramadhan is based on the Gregorian calendar and the Hijri. To perform the test in this study, will be determined when. The schedule of Ramadan in the fourth year are:

| solar year /<br>hijri year | 1 - 30 Sya'ban    | 1-30 Ramadhan    | 1-30 Syawal      |
|----------------------------|-------------------|------------------|------------------|
| 2007/1428H                 | 17 Agst - 12 Sept | 13 Sept - 12 okt | 13 Okt-12 Nov    |
| 2008/1429H                 | 4 Agst - 1 Sept   | 2 Sept - 30 Sept | 1 Okt - 30 Okt   |
| 2009/1430H                 | 23 Juli - 20 Agts | 21 Agst - 19Sept | 20 Sept - 20 Okt |
| 2010/1431H                 | 13 Juli - 10 Agst | 11 Agst - 9 Sept | 10 Sept - 8 Okt  |

Source: <http://wawanwae.blogspot.com/2008/12/jadwal-hari-libur-nasional-tahun-2009.html>  
[http://www.dakwatuna.com/2008/khutbah-idul-fitri-1429-h-kembali-ke-fitrah-titik-tolak-menuju-](http://www.dakwatuna.com/2008/khutbah-idul-fitri-1429-h-kembali-ke-fitrah-titik-tolak-menuju-masyarakat-)  
<http://www.tempointeraktif.com/hg/nasional/2006/03/20/brk.20060320-75343.id>

- a. Tests on the market return around the event window. Market Return is used to calculate the following formula:

$$R_{mt} = \frac{IHSG_{it} - IHSG_{t-1}}{IHSG_{t-1}} \dots\dots\dots(1)$$

Where:

|         |  |
|---------|--|
| Rit     | = Return to the market-to-i during period t          |
| IHSGit  | = Composite Stock Price Index to-i during period t   |
| IHSGt-1 | = Composite Stock Price Index to-i during period t-1 |

2. Tests on the cumulative market return that aims to analyze the entire day around the event window. Pegujian cumulative market return was made during Ramadhan, after Ramadhan, and before Ramadhan.

### 3. 5 Hypothesis Testing

#### 3.5.1 Testing Hypotheses 1 and 2

For the testing of hypotheses 1 and 2 using the Independent Sample T-test. Independent Sample T-test is a method used to test the significance of the average of two groups where the groups defined by the independent variables are determined by the sample group. In this test criteria to reject or not reject  $H_0$  is to compare the first value of Levene's Test, if the value of Levene's Test showed that the significance of the F count Sha'ban month observation period - Ramadan and Ramadan-Shawwal observation period of more than 5% so that the use of the Equal variance is assumed to use the t-value is calculated, then compared with the t-table. Alternative hypothesis would be accepted if the significant value of  $t_{hit} > t_{table}$  with a significant level of 0.05. (Ghozali, 2006).

### 4. Analysis Results and Discussion

#### 4.1 Analysis of Descriptive Statistics

Descriptive statistics in this study describes an overview of the variables used in the study, namely, the market return is calculated by using the Composite Stock Price Index (CSPI) daily. Descriptive variables to study the daily market return on the capital market in Indonesia is shown in table 4.1 below:

**Table 4.1**  
**Descriptive statistics**

Based on table 4.1 above can be seen that the average market return (RMT) in 2007 the lowest occurred in the month of Shawwal is 0.000952, while the average market return was highest in 2007 occurred in the month of Ramadhan by 0.009529. For maximum market value return in 2007 falls in the month of Ramadhan 0.0697, and the minimum market return occurred in the month of Ramadhan at -0.0099, meaning that the value of stock price index (CSPI) daily in Indonesia's capital market month of Ramadhan for the year 2007 had the lowest limit on negative numbers. Standard deviation in 2007 in the month of Sha'ban of 0.022817, compared with the average market return in the month of Ramadhan by 0.007257 we can conclude that variations in the market in the month of Ramadhan return. In the month of Ramadhan shows the standard deviation value greater than the average market return ( $0.0115495 > 0.009529$ ). Therefore we can conclude that in the month of Ramadhan occurs a high variation in market return. In the month of Shawwal, the market return that form also showed a variation. Can be seen from Table 4.1 that the standard deviation value of Shawwal market return is greater than the average market return ( $0.0227123 > 0.000952$ ). Market return variation as shown by the standard deviation value is greater than the average market return.



In 2008, the average value of the lowest market return occurred in the month of Ramadhan at -0.008025, while the average value of the highest returns can be found in the month of Shawwal of 0.024611. The maximum value of market return in 2008 occurred in the month of Shawwal 1.1475 and the minimum value of market return in 2008 occurred in the month of Ramadhan -0.0470. Standard deviation in the month of Ramadhan is greater than the average market return in the month of Ramadhan ( $0.0150668 > -0.001795$ ), in the month of Ramadhan shows that the standard deviation value is greater than the value of the average return market ( $0.0241431 > -0.008025$ ). The same value occurs in the month of Shawwal that there has been variation in market return shown by the standard deviation value is greater than the market return ( $0.2277470 > 0.024611$ ). It can be concluded that in the month of Ramadhan and Shawwal variation in market return.

Average market return in 2009 which has the highest value occurred in the month of Shawwal with the value 0.010110, then the average value of the lowest market return falls in the month of Ramadhan 0.002895. The maximum value of the market return for the year 2009 falls in the month of Ramadhan with a value of 0.0325 and a minimum return for the month of Ramadhan market occurs at -0.0253. In the month of Ramadhan market returns stock market variations, as evidenced by the standard deviation value that is greater than the average market return ( $0.0163306 > 0.004700$ ). The same is shown in the month of Ramadhan and Shawwal, the standard deviation is greater than the average daily market return. The value of the ratio between standard deviation and the market return for the year 2009 in the month of Ramadhan is equal ( $0.0112435 > 0.002895$ ) and for the month of Ramadhan is the ( $0.0102941 > 0.010110$ ).

The average value of the lowest market return for the year 2010 for the month of Ramadhan is -0.006382 and the average value of the highest market return for 2010 is 0.005267 in the month of Shawwal. The maximum value of market return for 2010 is 0.0390 which occurs in the month of Shawwal and the minimum value of market return in 2010 was 0.0173 which can be seen in the month of Ramadhan. In 2010, there was a variation of the daily market value in the Indonesian capital market. This variation can be seen from the standard deviation of the month Sha'ban, Ramadhan, and Shawwal greater than the average market return in the month of Sha'ban, Ramadhan, and Shawwal. The respective value of the ratio between standard deviation and the average market return for the month of Ramadhan is equal to  $0.0380638 > -0.006382$ ,  $0.0083171$  for the month of Ramadhan for  $> 0$ , and for the month of Shawwal of  $0.0120880 > 0.005267$ .

#### 4.2 Normality Test

In this research, the normality test is used is by using the Kolmogorov-Smirnov test. Data is said to be normally distributed if the value of  $p$  Kolmogorov-Smirnov test value  $> 0.05$  (Ghozali, 2006). Normality test results in this study can be presented in table 4.2.

**Table 4.2**  
**Normality Test Results**

For 2007 Ramadhan month market returns are normally distributed by Kolmogorov Smirnov values of 0.831 and a significant level above 0.05. The same is shown separately during Ramadhan and Shawwal, the month the market returns are normally distributed by Kolmogorov Smirnov value of 0.66 for the month of Ramadhan and the market return for the month of Shawwal of 0.65 with a significant level  $> 0.05$ . Market return in 2008 for the month of Sha'ban and Ramadhan is normally distributed, the Kolmogorov Smirnov value of each month at 0.718 and 0.9 that had significant levels above 0.05. But different values shown in the month of Shawwal, the month of Shawwal Kolmogorov Smirnov test with a



level of 2.065 significant at 1% level. It can be concluded that in 2008 the market return is not normally distributed or otherwise affected by the problem of data normality test. To solve the problem normality of the data, researchers took steps to dismiss the assumption of normality of data.

For the distribution of market returns in 2009 by the Kolmogorov Smirnov of Ramadhan to Ramadhan month is normally distributed. The Kolmogorov Smirnov value for the month of Sha'ban, Ramadhan, and Shawwal are 0.699, 0.563, 0.763 with a significant level above 0.05. The same is indicated by the year 2010, the Kolmogorov Smirnov test for the month of Sha'ban, Ramadhan, and Shawwal of 1.734, 0.372, and 0.763 with a significant level above 0.05. Means the distribution of market returns in 2010 were normal.

When viewed from the testing data for the years 2007 - 2010, can be concluded during the observation period of four years of market returns are normally distributed. The Kolmogorov Smirnov month of Ramadhan value from 2007 to 2010 is 0.823 with a significant level above 0.05, for the month of Ramadhan at 1.832 with a significant level above 0.05. But in the month of Shawwal Kolmogorov Smirnov value of 3.494 with a significant level at 1% level shows the market return is not normally distributed. In accordance with decisions taken by the author, in this study the authors ignore the assumption of normality test data.

### 4.3 Hypothesis Testing

#### 4.3.1 Testing Hypothesis I

Test the hypothesis I in this study is done using the Independent samples t-test test. Testing the hypothesis I intended to see if there is the phenomenon of The Ramadhan Effect on Indonesia at the time the stock market before the month of Ramadan (month of Ramadhan) the month of Ramadan. In the table 4.4 provides an overview of the results of independent sample t-test to test the market return compared to the month of Ramadhan the month of Ramadan from 2007 until 2010.

**Table 4.3**  
**The test results are independent sample t-test of the market return**  
**for the month of Ramadhan with Sya'ban**

In 2007 the Indonesian capital market market return for the month of Ramadhan is lower than the market return for the month of Ramadhan, this is indicated by the t-test calculated on the results of independent t-test negative value of 0.383. The results of the comparison between the t-hit and the t-value table showed that  $t_{hit} < t_{table}$  ( $0.383 < 2.045$ ) with a significant level ( $p\text{-value}$ )  $> 0.05$ , so it can be concluded that  $H1_0$  is not acceptable and meaningful phenomenon the Effect of Ramadhan in Sya'ban in the Indonesian capital market in 2007.

To calculate the t-value in 2008 of -0.979 which is smaller than the t-table value ( $-0.979 < 2.405$ ) at a significant level of ( $p\text{-value}$ )  $> 0.05$ . Based on the comparison of t-hit and t-table and see a significant value ( $p\text{-value}$ ) for the year 2008 we can conclude that  $H1_0$  is accepted, there is no phenomenon of The Ramadhan Effect in Indonesia's capital market in 2008. For the year 2009 t-calculated value of -0.401. Comparison between the t-hit and the t-table values can be concluded that the calculated value of  $t_{hit} < t_{table}$  ( $-0.401 < 2.045$ ) with a significant level ( $p\text{-value}$ ) 0.691. This means that there is no phenomenon of The Ramadhan Effect in Indonesia capital market during the month of Ramadhan and the month before Ramadhan (Ramadhan) or in other words, the  $H1_0$  is received. Based on the t-table



value in 2010 can be seen that t-table value of 1.045. T-values calculated in this study at 2.045, so that it can be concluded that  $t_{hit} < t_{table}$  with a significant level ( $p\text{-value}$ )  $> 0.05$ . Through the results of hypothesis testing in 2010 could concluded  $H_{10}$  is rejected or otherwise not happen The Ramadhan Effect phenomenon in Indonesia's capital markets during the month before Ramadan and during Ramadhan (Sya'ban).

#### 4.3.2 Testing Hypothesis II

Testing the hypothesis II also uses independent sample t-test. In the second hypothesis testing to determine whether there is the phenomenon of The Ramadhan Effect in Indonesia capital market during the month of Ramadan and after Ramadan (Ramadhan). The table below will show the test results of the Independent t-test that compares the market return in the month of Ramadan and Shawwal.

**Table 4.4**

**The test results are independent sample t-test of the market return for the month**

The results of tests performed on the hypothetical II is obtained by comparing the market return for the month of Ramadan with Sha'ban. The value of t-test in 2007 showed a mean of 1.519 in the month of Ramadhan market return is higher than the market return in the month of Shawwal. When compared with the t-table value of 2.045 can be concluded that the calculated t-value- $< t_{table}$  with a significant level ( $p\text{-value}$ )  $> 0.05$ . This suggests that the phenomenon did not happen The Ramadhan Effect in Indonesia's capital markets during Ramadan and after Ramadan (Ramadhan), or in other words  $H_{20}$  received.

### 5. Conclusions, Limitations and Recommendations

#### 5.1 Conclusions

1. The results of testing the market return for the month of Ramadan-Ramadhan, by comparing the results of testing on the market return for the month of Ramadan with Sha'ban for 2007, 2008, 2009 and 2010 by using independent sample t-test concluded that the absence of the phenomenon of the Ramadan effect which occurs in Indonesian capital market during the month of Ramadan and before the month of Ramadan (Ramadhan).
2. The results of testing the market return for the month of Ramadan with the month of Shawwal, using independent sample t conclude that there is no phenomenon of The Ramadhan Effect Indonesia capital market during the month of Ramadan and after Ramadan (Ramadhan).

#### 5.2 Limitations

Researchers focusing on a market return and ignore other information that goes into the capital markets which may lead to stock price movements during the observation period.

#### 5.3 Recommendations

For further research is expected to also consider the information coming into Indonesia's capital markets that may lead to stock price movements to test the existence of The Ramadhan Effect.



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## Appendix

**Table 4.1**  
**Descriptive Analysis**

| Month    | Years | N  | Mean      | Max    | Min     | Std.deviasi |
|----------|-------|----|-----------|--------|---------|-------------|
| Sya'ban  | 2007  | 18 | 0,007257  | 0,0697 | -0,0238 | 0,0228178   |
|          | 2008  | 20 | -0,001795 | 0,0209 | -0,0358 | 0,0150668   |
|          | 2009  | 20 | 0,004700  | 0,0325 | -0,0253 | 0,0163306   |
|          | 2010  | 21 | -0,006382 | 0,0207 | -0,1668 | 0,0380638   |
| Ramadhan | 2007  | 21 | 0,009529  | 0,0328 | -0,0099 | 0,0115496   |
|          | 2008  | 20 | -0,008025 | 0,0582 | -0,0470 | 0,0241431   |
|          | 2009  | 19 | 0,002895  | 0,0183 | -0,0176 | 0,0112435   |
|          | 2010  | 19 | 0,002946  | 0,0173 | -0,0128 | 0,0083171   |
| Syawal   | 2007  | 18 | 0,000952  | 0,0410 | -0,0625 | 0,0227123   |
|          | 2008  | 27 | 0,024611  | 1,1475 | -0,1038 | 0,2277470   |
|          | 2009  | 19 | 0,010110  | 0,0193 | -0,0191 | 0,0102941   |
|          | 2010  | 18 | 0,005267  | 0,0390 | -0,0109 | 0,0120880   |

**Tabel 4.2**  
**Normality Test Results**

| Description  | Years     | Kolmogorov Smirnov | Sig     |
|--------------|-----------|--------------------|---------|
| RMt Sya'ban  | 2007      | 0,831              | 0,495   |
|              | 2008      | 0,718              | 0,682   |
|              | 2009      | 0,699              | 0,713   |
|              | 2010      | 1,734              | 0,005** |
|              | 2007-2010 | 0,823              | 0,506*  |
| RMt Ramadhan | 2007      | 0,66               | 0,776   |
|              | 2008      | 0,571              | 0,9     |
|              | 2009      | 0,563              | 0,909   |
|              | 2010      | 0,372              | 0,999   |
|              | 2007-2010 | 1,832              | 0,044*  |
| RMt Syawal   | 2007      | 0,659              | 0,778   |
|              | 2008      | 2,065              | 0,000** |
|              | 2009      | 0,431              | 0,992   |
|              | 2010      | 0,763              | 0,605   |
|              | 2007-2010 | 3,494              | 0,000** |



**Table 4.3**

**The test results are independent sample t-test of the market return  
for the month of Ramadhan with Sya'ban**

| RMt              | 2007   |       | 2008   |       | 2009   |       | 2010  |       | 2007-2010 |       |
|------------------|--------|-------|--------|-------|--------|-------|-------|-------|-----------|-------|
|                  | t      | Sig   | t      | Sig   | t      | Sig   | t     | Sig   | t         | Sig   |
| Ramadhan-Sya'ban | -0,383 | 0,691 | -0,979 | 0,334 | -0,401 | 0,691 | 1,045 | 0,303 | 0,372     | 0,719 |

**Table 4.4**

**The test results are independent sample t-test of the market return for the month**

| RMt             | 2007  |       | 2008   |       | 2009  |       | 2010   |       | 2007-2010 |       |
|-----------------|-------|-------|--------|-------|-------|-------|--------|-------|-----------|-------|
|                 | t     | Sig   | t      | Sig   | t     | Sig   | t      | Sig   | t         | Sig   |
| Ramadhan-Syawal | 1,519 | 0,137 | -0,636 | 0,528 | 0,536 | 0,595 | -0,684 | 0,499 | 0,114     | 0,598 |

## FACTORS THAT INFLUENCE COMPANY DECISION MADE SHARE REPURCHASE

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### ABSTRACT

This study aims to examine the factors that affect companies doing share repurchase with free cash flow as dependent variable, firm value, firm size, leverage, earnings per share, and dividends. The sample in this study are the companies that make share repurchase and the comparison companies listed on the Indonesia Stock Exchange in 2004 until 2009. Data used in this research is secondary data obtained from financial data on the website [www.idx.com](http://www.idx.com). The number of samples in this study were as many as 38 companies consisting of 19 companies doing share repurchase and 19 comparison companies are not doing share repurchase.

Data analysis was performed with logistic regression using SPSS version 16.0. Results of hypothesis testing showed the influence of a low firm value (undervalued) more influence corporate decisions to share repurchase and significant (Significant = 0.034). Free cash flow in order to reduce the agency problem does not show significant results to influence the company's decision to share repurchase (Significant = 0.141). Furthermore, earnings per share showed a negative and significant influence but the dividends show a positive influence and not significant where the second hypothesis is also rejected. Free cash flow, earnings per share, and dividends is a variable that hypothesis is rejected. Size also affects the company and leverage the company's decision to share repurchase.

**Keywords:** Share Repurchase, Free Cash Flow, Signaling Theory, Leverage, Earnings per share, Dividend

### 1. Introduction

#### 1.1. Background

Sartono (2001) stated the company will repurchase shares when it has excess cash and have no profitable investment opportunities. If based on the consideration that the company does not have a profitable investment opportunity set, firms can use free cash flow is to be paid in dividends. However, if the dividend payment is deemed not to give a positive signal to the performance of the company and can not affect the price of securities companies and stock companies tend to undervaluation, the management company decided to use free cash flow for share repurchase program (Mauboussin, 2006).

Two of the most popular explanation of the decision explaining the company decided to repurchase shares is free cash flow hypothesis and the theory of signal (signaling theory). Free cash flow hypothesis outlined in the agency theory implies that the company with excess cash flow and little debt payments will make a bigger share repurchase. Dittmar (1999) argues, if the company has excess cash flow, then the company can withstand it or distribute profits to shareholders. Companies with high cash flow are at high risk for excessive investment, cash flow and free cash flow conflict between shareholders and managers



when excess cash flow and is not used in accordance with its use (Jensen, 1986). By returning the free cash flow to shareholders, share repurchase will reduce conflict.

Chen et al., (2007) expressed the opinion that companies with high value of the company tend to not share repurchase decisions, and vice versa, a company with a low value of the company tends to do the share repurchase. Share repurchase is also a carrier signal to prospective investors and investors that the company has a promising future expectations.

Free cash flow hypothesis implies, companies with excess cash flow and little debt payments will make a bigger share repurchase. Dittmar (1999) argues, if the company has excess cash flow, then the company can withstand it or distribute profits to shareholders. Companies with high cash flow are at high risk for excessive investment, and therefore, it is a profit to distribute excess cash to shareholders. According to Grullon and Michaely (2002), share repurchase is better to do than to do with the other policies without a better return when the company's surplus cash funds. Oswald and Young (2004) argues, share repurchase policy is used as a distribution of surplus cash and change back the impression of the company's stock is undervalued.

Research Fenn and Liang (1997) showed that the share repurchase program is emphasized in order to reduce the agency cost by way of distributing free cash flow in the form of share repurchase rather than a signal of the share repurchase program which means that in terms of signaling theory share repurchase program does not do when stocks tend to be undervalued companies. Buyback of shares by the company can be seen also as another form of dividends. Substitution hypothesis explains that the share repurchase and dividends are perfect substitutes (Miller and Modigliani, 1961 in Lee and Rui, 2004). However, Lee and Rui (2004) explain that researchers have yet to get consistent results in concluding whether the dividend and share repurchase program that is interchangeable. Substitution is associated with the management's decision to choose a distribution of cash flow by changing the dividend payment decision to share repurchase, or otherwise, share repurchase with dividend payments.

Jagannathan et al., (1999) suggests that flexibility hypothesis (temporary cash flow), that the payment of dividends will demonstrate a commitment to continuously and used to distribute permanent cash flow, while the share repurchase used as payment for a temporary cash flow of an undervalued company tend to choose a share repurchase rather than dividend payments. Related to the value of the undervalued companies, it is also related to the possibility of a takeover from an outside company. Undervalued companies that have tended to do a share repurchase to boost stock price or return the liquidity of these shares. If the perceived value of the company is too low or overpriced securities tend to decrease the company's decision to repurchase shares to increase the return value of the company is likely to be done.

## 1.2 Research Problem

Some of the problems in this research are as follows:

1. Is the free cash flow positive influence on firm's decision to share repurchase?
2. Is the firms value negatively affect the firm's decision to share repurchase?
3. Is the firm size positive influence on firm's decision to share repurchase?
4. Is leverage negatively affect the firm's decision to share repurchase?
5. Are earnings per share positive impact on the firm's decision to share repurchase?
6. Are dividends negatively affect the firm's decision to share repurchase?

## 2. Literature Review



## 2.1 Agency Theory

When the owner of the firm sold some of its shares to other investors will bring the agency problem. Manager appointed by the shareholders of the firm so ideally would act "on the best interest of stockholders", but in practice the agency conflict. One way that can be used to reduce this agency problem is dividing the proportion of shares to management, where management has the right as well as principals, not only as an agent. Of the several theories exist regarding the agency, just a bit of explaining about his relationship with the share repurchase. From the above, one of the programs that are considered able to resolve the agency problem is with the share repurchase program.

Agency theory explains that the share repurchase will ease the divergence of incentives between management and shareholders. Share repurchase shares of the company increased the percentage ownership of those who do not sell their shares. If an employee or director who has not sold its shares in the share repurchase program, the proportion of ownership will also increase. if a large percentage of ownership, the encouragement of employees and directors who own shares of companies that act as owners tend to be larger.

When the management to distribute excess cash through a share repurchase, then it will give confidence to our shareholders. By using the funding wisely or do not cause a negative net present value for the company, then management will increase trust and confidence of shareholders. Certainly the provision of dividends is also a similar function where it is likely no more unique than share repurchase.

According to Dittmar (1999), by reducing the amount of equity, the share repurchase will change the leverage ratio, while still allowing managers to distribute cash without reducing earnings per share of stock. In the management incentive hypothesis (Dittmar, 1999), stock options encourage managers to change the share repurchase as a dividend if the share repurchase do not diluted the value of company stock and shares reserved for managers when they are acquired through stock options. Fenn and Liang (1997) argued that stock options will increase the incentive for management to provide maximum performance for the company, including distribution of free cash flow to shareholders.

Free cash flow hypothesis states that when there is excess free cash flow, the company faced a decision to distribute free cash flow, or hold it as retained earnings. Distribution tends to be done by paying in advance the company's debts, investments, payment of dividends, or repurchase of outstanding shares. When there is no longer a material financial cost to be paid, and then sets tend to be good investment opportunities, and dividend payments in this case relate to enhance shareholder value are not material, then one good decision is to do the share repurchase.

## 2.2 Signaling Theory

Explanation of information signaling hypothesis (Lee and Rui, 2004) assumes that the share repurchase by the company needed and used as a liaison positive information from the well-informed managers to shareholders of poorly-informed on the capital market characteristics and classified as shaped by the nature information asymmetry occurs. They argued that managers try to do a share repurchase to provide information signal increased corporate profits.

Other explanations in the undervaluation hypothesis is the share repurchase is used by corporate managers as a policy to provide information about the company experienced undervaluation. If managers believe that the company had undervalued according to internal company information, managers will try to report an increase in the value of the company's potential share repurchase to do. (Lee and Rui, 2004). Ikenberry et al., (1994)



argued, when the manager asked why do the share repurchase, the main reason is due to "undervaluation" and the shares they represent "a good investment". Dann et al., (1991) in Jin (2000) argues that the share repurchase to give a good signal of future earnings and also lowers the systematic risk at the time of the announcement of share repurchase. Undervaluation hypothesis put forward Dittmar (1999) explains that, with the share repurchase is associated with a value of undervalued companies, it will increase the value of shares of the company itself. If the company believes that the stock had undervalued the company will do the share repurchase as a signal to the market.

## **2.3 Previous Research dan Formulation Hypothesis**

### **2.3.1 Influences of Free Cash Flow to the Decision of Share Repurchase**

Free cash flow hypothesis implies that firms with high levels of excess cash and low debt levels will make share repurchase (Vermaelen, 1981). Fenn and Liang (1997) showed that the free cash flow is the main motivation for companies to share repurchase program. Evans et al., (1999) proved that the free cash flow is the main driving factors in the decision to share repurchase. It is possible for a company that does share repurchase to signal that the company has a large free cash flow by investing on the share repurchase. Dittmar (1999) of research results prove that the free cash flow positive and significant effect on the company's decision to repurchase shares. Based on several studies of the above, the author can take the hypothesis that:

**H1: Free cash flow positively influence on corporate decision to repurchase shares**

### **2.3.2 Influence of Firm Value to Share Repurchase Decision**

One of the reasons the company to decide to share repurchase (Ikenberry et al., 1994, Fenn and Liang, 1997; Weston et al., 2002; Ramakrishnan et al., 2007) is to enhance shareholder value, especially if the company's stock has undervaluation. Distribution of free cash flow that is intended in this case is a share repurchase undervalued shares to be back to normal. Wang et al., (2009) shows, the negative influence of the company's share repurchase decisions to be made. His research shows a negative value to the value tobins'q high and vice versa, indicating a positive value to the value of low tobins'q.

Chen et al., (2007) concluded that the average cumulative abnormal return is negative and significant effect on share repurchase announcement by using the measurements of Tobin's Q. In the company of high value, abnormal returns are significantly negative effect on free cash flow, and the company that company value is low, abnormal return is significantly positive effect on free cash flow. Padgett and Wang (2007) showed that tobins'q negatively affect the company's decision to repurchase shares. Based on several studies of the above, the authors formulated the hypothesis that:

**H2 : Firm Valuenegatively influence on corporate decision to repurchase shares**

### **2.3.3 Influence of Firm Size to Share Repurchase Decision**

Large size companies tend to do a share repurchase than the size of a small company. Jin (2001) finds that firm size is measured as the natural log of MVE (market value of equity) for two days before the announcement. Zeghal (1983), Eddy and Seifert (1988), and Mitra and Owers (1990) in the Jin (2001) argues that firm size is a proxy for the availability of corporate information to the public; the larger the company, the greater the availability of information. Large companies will be more inclined to share repurchase where it is due to greater availability of information and level of information asymmetry smaller. In contrast, firms with smaller size have a small availability of information and level of information asymmetry is greater. Thus, the value of the share repurchase



announcement that carry information to the market will be greater for large firms than small firms. Based on several studies of the above, the hypothesis was formulated:

**H3 : Firm Size positively influence on corporate decision to repurchase shares**

#### **2.3.4 Influence of Leverage to Share Repurchase Decision**

Free cash flow hypothesis states that managers will announce the payment of any free cash flow. This is as a signal to the market that the presence of high free cash flow in a company one of which is caused by low levels of debt in the firm (Nixon et al., 2007). However, if it is associated with optimum leverage hypothesis stated by Vermaelen (1981) in Ramakrishnan et al., (2007) that when connected with an optimal capital structure, corporate decision to do the share repurchase is to increase the debt ratio impact on tax reduction and increasing the value of the company. Further, Fenn and Liang (1997) proved that leverage negatively affect the company's decision to repurchase shares. Based on several studies of the above, the hypothesis was formulated:

**H4: Leverage negatively influence on corporate decision to repurchase shares**

#### **2.3.5 Influence of Earning per Share to Share Repurchase Decision**

EPS of a company's information shows the amount of net earnings distributed to all shareholders of the company. Earning per share is a ratio that shows the level of income per number of shares outstanding. Share repurchase will conduct a reduction in the number of outstanding shares by purchasing shares in the market. So the divisor from the tax net profit is getting smaller, and the results of the EPS is the greater. Share repurchase which made will be associated with a trend away from the dilutive effect of shares where the number of shares outstanding would be reduced (Ramakrishnan et al., 2007; Nadarajan et al., 2009). Based on several studies of the above hypothesis is formulated:

**H5: Earning per Share positively influence on corporate decision to repurchase shares**

#### **2.3.6 influence of Dividend to Share Repurchase Decision**

Free cash flow which largely used to pay dividends or pay debts. If the payment is not done then do share repurchase program, so which the smaller the dividend paid by a company with which small commission of corporate debt is to distribute free cash flow is to do a share repurchase (Fenn and Liang, 1997). Only permanent or constant increase in the free cash flow which likely to be distributed as dividends. The increase in earnings is temporary or seasonal are not distributed as dividends, but tends to be used as a share repurchase for some period (Ramakrishnan et al., 2007). In addition to this, related to the substitution hypothesis (Lee and Rui, 2004; Grullon and Michaely, 2002; Dittmar, 1999) which describes the share repurchase program itself can substitute dividend payments.

Dividends paid in cash should be replaced in the form of share repurchase. With the turn of the program does pay dividends in the form of share repurchase, dividend payments will be minor. Furthermore, also related to the flexibility hypothesis that explains the share repurchase is likely the best option as the distribution of free cash flow compared to the payment of dividends when there is an increase free cash flow is temporary (in certain periods and not fixed). While the dividend payment is better done when an increase in free cash flow is permanent (constant increase / continue in the current period) (Dittmar, 1999) Based on several studies, the hypothesis was formulated:

**H6: Dividend negatively affect the corporate decision to repurchase shares**

### **3. RESEARCH METHOD**

#### **3.1 Population and Research Sample**



In this study population used is a company listed on the Indonesia Stock Exchange 2004-2009 period. Furthermore, which study sampled the company - a company listed on the Indonesia Stock Exchange (BEI), which do share repurchase and for comparison in this study is which companies do not share repurchase. The selection of samples in the period 2004-2009 is based on the share repurchase announcement which available on the website [www.idx.co.id](http://www.idx.co.id). Samples were collected using purposive sampling method. Criteria of the sample with purposive sampling method in this study are as follows:

1. Firms that do share repurchase period 2004-2009
2. Firms that provide annual financial reports 2003-2009 period
3. comparison companies (companies that do not share repurchase on the same industrial group of companies that share repurchase. Companies are selected based on the comparative value of equity is close to the same value of the equity of companies that share repurchase) in the period 2004-2009.

### 3.2 Operationalization of The research Variables

#### 3.2.1 Dependent Variables

In this research, which is used as the dependent variable is the share repurchase. This variable is a categorical variable (non-metric), with number 1 for companies that share repurchase and the number 0 for firms that do not share repurchase.

#### 3.2.2 Independent Variables

##### 1. Free Cash Flow

The formula for calculating free cash flow (research Fenn and Liang, 1997) are:

$$FREE\ CASH\ FLOW_{it} = EBIT_{it} + DEPRECIATION_{it} + AMORTIZATION_{it} - TAXPAID_{it} - DIVPAID_{it} / ASSET_{it}$$

where:

|                         |                                      |
|-------------------------|--------------------------------------|
| $FREE\ CASH\ FLOW_{it}$ | = Retained earnings firm             |
| $EBIT_{it}$             | = Earnings before interest and taxes |
| $DEPRECIATION_{it}$     | = Depreciation Expense               |
| $AMORTIZATION_{it}$     | = Amortization Expense               |
| $TAXPAID_{it}$          | = Taxes Paidfirm                     |
| $DIVPAID_{it}$          | = Dividend Paid                      |
| $ASSET_{it}$            | = Firms Asset                        |

##### 2. Firm Value (Tobins'Q)

This variable is the ratio of market capitalization value of equity plus the book value of debt to total assets. The formula used to calculate Tobin's q according to research by Wang et al., (2009) are:

$$Tobin's\ Q = MVE_{it} + DEBT_{it} / ASSET_{it}$$

where:

|              |                         |
|--------------|-------------------------|
| Tobin's Q    | = Firm Value            |
| $MVE_{it}$   | = Firm Size i periode t |
| $DEBT_{it}$  | = Total Debt            |
| $ASSET_{it}$ | = Total Asset           |

##### 3. Firm size

Firm size is a proxy that is used as one of the company's motivation to do the share repurchase in which the smaller the company the greater the required information (Jin,

2001). The formula used to calculate the size of the company according to research by Jin (2001) are:

$$\begin{aligned} \text{Size} &= \text{LN MVE} \\ \text{MVE}_{it} &= \text{Closing price}_{it} \times \text{Share Outstanding}_{it} \end{aligned}$$

where:

$\text{MVE}_{it}$  = Market Value Equity as proxy Firm Size  
 Closing Price<sub>it</sub> = Closing Price  
 Share outstanding<sub>it</sub> = Number of Share Outstanding

#### 4. Leverage

The formula to calculate the leverage (Fenn and Liang, 1997) are:

$$\text{LEVERAGE}_{it} = \text{DEBT}_{it} / \text{ASSET}_{it}$$

where:

$\text{DEBT}_{it}$  = Total Debt  
 $\text{ASSET}_{it}$  = Total Asset

#### 5. EPS (Earning per Share)

Earning per Share variables (EPS) were measured with (Ramakrishnan et al., (2007):

$$\text{EPS}_{it} = \text{EAT}_{it} / \text{Share Outstanding}_{it}$$

where:

$\text{EPS}_{it}$  = Earnings per Share  
 $\text{EAT}_{it}$  = Earnings After Taxes  
 Share outstanding<sub>it</sub> = Number of Share Outstanding

#### 6. DPS (Dividend per Share)

This variable is measured by the ratio of dividends paid to the Share Outstanding (number of shares outstanding). The formula to calculate the dividend per share according to research by Fenn and Liang (1997) is:

$$\text{DPS}_{it} = \text{DIVPAID}_{it} / \text{Share Outstanding}_{it}$$

where:

$\text{DPS}_{it}$  = Dividendpaid per share  
 Share Outstanding<sub>it</sub> = Number of Share Outstanding  
 $\text{DIVPAID}_{it}$  = Dividend Paid

### 3.5 Methods and Data Analysis

Data analysis methods used to test the hypothesis is to use logistic regression models. Logistic regression model analysis was used to observe the effect of independent variables on the dependent variable, where the independent variable is a mixture of continuous variables (metrics) and categorical (non-metric) (Ghozali, 2001). This study uses a model and analysis as follows:

$$\text{SR} = \alpha + \beta_1 \text{FCF}_{it} + \beta_2 \text{Tobin's } Q + \beta_3 \text{LNMVE}_{it} + \beta_4 \text{LVRGE}_{it} + \beta_5 \text{EPS}_{it} + \beta_6 \text{DPS}_{it} + e$$

where:

SR : Share Repurchase(Categorical variable with value 1 to share repurchase and the number 0 does not do the share repurchase)



|           |  |
|-----------|--|
| FCF       | : Free cash flow                                 |
| Tobin's Q | : Firm Value                                     |
| LN MVE    | : Firm Size (Log Natural Market Value to Equity) |
| LVRGE     | : Leverage                                       |
| EPS       | : Earning per Share                              |
| DPS       | : Dividend per Share                             |
| $\alpha$  | : constants                                      |
| $\beta$   | : Regression coefficient                         |
| e         | : Error Term                                     |

Furthermore, in order to assess the feasibility of the model (fit model), it can be done by comparing the numbers on-2loglikelihood (-2LL) intercept only with numbers on-2Loglikelihood (-2LL) final. The model is said to fit if the value of the-2LL intercept only a decline in the value-2LL significant and the results are final. If a decline in the value-2loglikelihood and significant, meaning that the model used logistic models showed a good (fit).

#### 4. Results and Discussion

##### 4.1 Sample Research

From the initial search for the availability of company financial statements, this study can only get as many as 19 company financial statements. Description of the sample in this study are listed in table 4.1.

**Table 4.1**  
**Research Sample**

| Firms Sample   | Number of Firms | Percentage |
|--|-----------------|------------|
| Companies listed on Indonesian Stock Exchange (2004-2009)                                    | 341             | 100%       |
| Corporate do share repurchase  | 21              | 6.1583%    |
| Financial statements are not available   | 2               | 0.5865%    |
| The number of companies that met the study criteria for a company that does share repurchase | 19              | 5.5718%    |
| The number of comparison companies (do not share repurchase)                                 | 19              | 5.5718%    |
| The number of companies that met the study criteria  | 38              | 11.1436%   |
| <b>group of Company</b>  |                 |            |
| Agriculture, Forestry and Fishing  | 4               | 10.5263%   |
| Banking  | 2               | 5.2632%    |
| Construction   | 2               | 5.2632%    |
| Manufacture  | 14              | 36.8421%   |
| Mining & Mining Services   | 8               | 21.0526%   |
| Others   | 2               | 5.2632%    |
| Real Estate & Property   | 2               | 5.2632%    |
| Telecommunication  | 2               | 5.2632%    |
| Transportation Service   | 2               | 5.2632%    |
| Number of sample   | 38              | 100%       |

Sources: Secondary data, 2011

## 4.2 Descriptive Statistics

Descriptive statistics can be seen in table 4.2 below.

**Table 4.3**  
**Descriptive Statistics**

| All Observation                          |           |          |            |                |
|--|-----------|----------|------------|----------------|
| Variable                                 | Mean      | Minimum  | Maximum    | Std. Deviation |
| FCF                                      | 0.0967    | -0.5793  | 0.4601     | 0.1885         |
| Tobin'sQ                                 | 3.7547    | 0.4473   | 54.0682    | 8.6080         |
| LN MVE                                   | 29.0383   | 24.1093  | 34.4942    | 2.3554         |
| LEVERAGE                                 | 0.4182    | 0.0475   | 0.9066     | 0.2228         |
| EPS                                      | 657.1225  | -54.0000 | 15681.5900 | 2527.0898      |
| DPS                                      | 133.1875  | 0.0000   | 1391.9236  | 285.0251       |
| Corporate Conduct Share Repurchase       |           |          |            |                |
| FCF                                      | 0.1265    | -0.5793  | 0.4601     | 0.2035         |
| Tobin'sQ                                 | 1.9757    | 0.4569   | 4.1568     | 1.1663         |
| LN MVE                                   | 29.0614   | 24.8325  | 32.2085    | 2.2130         |
| LEVERAGE                                 | 0.4297    | 0.0974   | 0.9066     | 0.2362         |
| EPS                                      | 170.3733  | 7.0000   | 562.0000   | 180.9220       |
| DPS                                      | 75.0312   | 0.0000   | 410.0000   | 108.2663       |
| Company which Not Doing Share Repurchase |           |          |            |                |
| FCF                                      | 0.0668    | -0.3927  | 0.3554     | 0.1724         |
| Tobin'sQ                                 | 5.5339    | 0.4473   | 54.0682    | 12.0112        |
| LN MVE                                   | 29.0152   | 24.1093  | 34.4942    | 2.5506         |
| LEVERAGE                                 | 0.4067    | 0.0475   | 0.8837     | 0.2143         |
| EPS                                      | 1143.8716 | -54.0000 | 15681.5900 | 3548.8374      |
| DPS                                      | 191.3438  | 0.0000   | 1391.9236  | 384.8769       |

Sources: Secondary data, 2011

## 4.3 Testing Hypotheses and Discussion

### 4.3.1 Testing Hypothesis

This study aims to clarify the factors affecting the company's decision to repurchase shares. To test these factors, there are several hypotheses are developed. The whole hypothesis in this study were tested using logistic regression. Dependent variable is given a value of 1 for companies that share repurchase and 0 to companies that do not share repurchase. The logistic regression test results are presented in table 4.3.

**Table 4.3**  
**Logistic Regression Results**

| Variable         | Coeff. | Wald  | Sig.          |
|------------------|--------|-------|---------------|
| <i>Intercept</i> | 34.298 | 5.267 | 0.023         |
| FCF              | 4.223  | 2.193 | 0.141         |
| TobinsQ          | 1.887  | 4.694 | <b>0.034*</b> |
| LN MVE           | 1.481  | 5.440 | <b>0.020*</b> |
| LEVERAGE         | -8.234 | 4.453 | <b>0.030*</b> |
| EPS              | -0.009 | 4.396 | <b>0.034*</b> |



|                                    |       |                               |          |
|------------------------------------|-------|-------------------------------|----------|
| DPS                                | 0.008 | 2.616                         | 0.116    |
| -2loglikelihood Intercept Only     |       | 52.679                        |          |
| -2loglikelihood Final              |       | 33.669                        |          |
| Chi-Square                         |       | 19.010                        |          |
|                                    |       | <b>Classification</b>         |          |
|                                    |       | <b>Number<br/>Observation</b> | <b>%</b> |
| Classification of Share Repurchase |       | 19                            | 68.4%    |
| ClassificationNon Share Repurchase |       | 19                            | 89.5%    |
| Total Classification power         |       | 38                            | 78.9%    |

Sources: Secondary data, 2011

From the above test results, the results of logistic regression on the initial model (-2LL intercept only) indicates a value of 52 679 and in the final model (-2LL Final) indicates a value of 33 669. Of the-2LL intercept only with-2LL Final that are impaired and have a significance level of 1%, it can be concluded that this model is a good logistic models (fit). Nagelkerke R-Square in this model, has a value of 0525. This suggests that the variability of independent variables has the effect of 52.5% against variabililas dependent variable and the remaining 47.5% is explained by other variables not included in the regression model.

Overall this model has the classification of 78.9%. The classification for companies that share repurchase by 68.4% and the classification for companies that do not share repurchase of 89.5%. Based on the Nagelkerke value can be said that free cash flow variable, the value of the company, firm size, leverage, earnings per share, and dividends can be used to predict the company's decision to repurchase shares. The first hypothesis to test for variable free cash flow (FCF) in this model, showing the regression coefficient has a value of 4223 with a significance level > 5%. Statistically significant regression coefficient has a value of positive FCF but the effect is not significant. Therefore, the results of this study reject the first hypothesis. Although the first hypothesis is rejected, this suggests that the greater free cash flow the greater the tendency of the company's decision to share repurchase and reverse the less free cash flow will be smaller then the tendency of companies to share repurchase decisions. With no significant effect, this means that free cash flow is not the most important factor in the company's decision to repurchase shares so that the variable free cash flow does not support the hypothesis of excess capital in the signaling theory in relation to the company's decision to repurchase shares. The results of this hypothesis also does not support research Fenn and Liang (1997) and Evans et al., (1999) which states free cash flow positive influence on the company's decision to repurchase shares.

Testing for the second hypothesis to prove that the firm value negative influence the company's decision to repurchase shares. The results of the tests performed on the variable value of the company (Tobins' Q) denotes the regression coefficient with a value of -1887 and has a significance level of <5%. Regression coefficients were statistically Tobins' Q has a negative and significant value. Therefore, the results of this test to receive the second hypothesis. The second hypothesis is accepted indicating that the smaller the value of the company (undervalued), the greater the tendency of companies to share repurchase decisions. Vice versa, the greater the value of the company (overvalued), then the tendency will be smaller too firm to share repurchase decisions. The results also support the research of Wang et al., (2009) and Chen et al., (2007) which states the value of the company adversely affect the company's decision to repurchase shares.



The third hypothesis testing showed variable size enterprises (LNMVE) has a regression coefficient value of 1481 with a significance level of <5%. Statistically these results suggest that firm size has a positive influence on the company's decision to repurchase shares and significant. With the test results are positive and significant, the results of this test to receive the third hypothesis. The third hypothesis is accepted to mean the larger the company the greater the tendency of companies to share repurchase decisions. The results of this study support the research of Jin (2001) which states the size of the company's positive influence on the company's decision to repurchase shares.

The fourth hypothesis testing showed a negative regression coefficient of leverage with a value of -8234 and has a significance level of <5%. Statistically significant regression coefficient of LEVERAGE has a negative and significant value. Therefore, the results of this test to receive the fourth hypothesis. The fourth hypothesis is accepted indicating that the smaller the leverage, the greater the tendency of companies to share repurchase decisions. These results are consistent with research conducted by Nixon et al., (2007) and Ramakrishnan et al., (2007) which describes the leverage negatively affect the company's decision to repurchase shares.

The fifth hypothesis testing to demonstrate the results of the regression coefficient of variable earnings per share (EPS) that is equal to -0009 with a significance level of <5%. These statistical results show earnings per share has a negative and significant effect. Therefore, the results of these tests reject the fifth hypothesis. The fifth hypothesis is rejected is showing evidence that the lower earnings per share (EPS), the greater the company's decision to repurchase shares. The results of this study is consistent with research by Ramakrishnan et al., (2007) and Nadarajan et al., (2009) who concluded that the earnings per share positive impact on corporate decision to repurchase shares.

Testing for the six hypotheses to prove that dividends negatively affect corporate decision to repurchase shares. The results of tests performed on the dividend per share (DPS) in this model, showing the regression coefficient has a value of 0008 with a significance level > 5%. Statistically significant regression coefficient has a value of positive FCF but the effect is not significant. Therefore, these results reject the hypothesis of the sixth. With the sixth hypothesis is rejected, then the greater the dividend per share does not indicate that the greater the tendency of corporate decision to share repurchase and reverse the smaller the dividend per share also does not show the tendency of small companies do share repurchase decisions. The results of this study is consistent with research conducted by Ramakrishnan (2007), Lee and Rui (2004), Grullon and Michaely, (2002) and Dittmar (1999) which states that dividends negatively affect corporate decision to repurchase shares.

## 5. CONCLUSIONS, LIMITATIONS, AND IMPLICATIONS

### 5.1 Conclusions

Results of research on the testing of hypotheses that have been done show that the main motivation in conducting share repurchase firms to issue more shares undervalued compared to the problem of agency (agency problem). Testing all hypothesis model using logistic regression models used the conclusions drawn in this study showed a good model and fit. Some of the conclusions in this study include:

1. Testing the first hypothesis related to free cash flow yield and no significant positive effect indicates that the share repurchase decision is not intended to reduce the agency problem of excess cash flow (free cash flow).



2. The company's decision to repurchase shares is due to the problem of undervalued companies where the lower value of the company, the company's decision to repurchase shares will be even greater. Companies with lower firm value (undervalued) are vulnerable to be taken over (take-over/hostile takeover).
3. Firm size has positive effects on share repurchase decisions which means that the larger size of the company, the greater the company's decision to repurchase shares. Large size companies tend to have internal funds and the ability to buy back a large share.
4. Leverage negatively affect the company's decision to repurchase shares is received. In the free cash flow hypothesis states that when there is excess cash the company has a policy to hold it as retained earnings or distribute them. The decision to share repurchase, share repurchase firms tend to perform not only in the absence of any investment opportunity set, but the low level of corporate debt.
5. Earning per share negative impact on the company's decision to repurchase shares. It is not in line where the assumption is violated is the earnings per share positive impact on the company's decision to repurchase shares. Explanation of this negative effect can be seen from the funds used to repurchase shares not all come from internal funds, but the possibility could come from debt.
6. Dividends have a positive influence on the company's decision to repurchase shares. It is not appropriate substitution hypothesis and the flexibility hypothesis which states share repurchase and dividends are substitution.

## 5.2 Limitations

There are some limitations to which these limitations are as follows:

1. Samples are used only in the period 2004-2009 with the number of samples that met the study criteria were 38 companies from the sample population of 341 companies listed on the Stock Exchange, including 19 companies from 21 companies that share repurchase and 19 comparison companies that do not share repurchase. The limited amount of information share repurchase in the current period and annual financial statements information that is not provided is a limitation of this study.
2. This study did not consider other variables that may affect the company's decision to repurchase shares.

## 5.3 Implications

Limitations in this study, the research suggestions and implications that can be provided include:

1. Examine other factors that allow it to affect the company decided to share repurchase. Another factor is the example of stock options related to management incentive hypothesis. This relates to the purpose of management to increase the number of shares held for the share (held in reserve) to the management and employees with much better purpose as well in reducing the agency problem.
2. Takeover by inserting dummy data variable with a tendency to see the takeover of another company. The results showed that the takeover has a positive effect on the company's decision to repurchase shares (Ditmar, 1999).

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